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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,294	09/25/2001	Jin-young Lee	1568.1024	6532

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EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/961,294

Applicant(s)

LEE, JIN-YOUNG

Examiner

Laura S Weiner

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 20-24 and 26-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 25 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-19, 25 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that it would not be a burden to search all the groups together. This is not found persuasive because searching for Groups I-IV would require four independent and separate searches such as searching for Group I in class 429 subclass 319 while searching for Group II in class 29 subclass 623.5, searching for Group III in class 29 subclass 623.3 and searching for Group IV in class 29 subclass 623.1.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 20-24, 26-30 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper No. 8.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. "Synthesis and Characterization of Polyether Urethane acrylate-LiCF₃SO₃-based polymer Electrolytes by UV-curing in Lithium Batteries".

Kim et al. teaches on page 12, that crosslinked polymer networks prepared using radiation curing have received considerable attention and teaches that prepolymers of polyether urethane acrylate (PEUA) were synthesized from polyether polyol (polyethylene glycol (PEG) and hexamethylene diisocyanate (HMDI). Kim et al. teaches on page 13, a polyether polyol (reacted with diisocyanate, a catalyst, dibutyltin dilaurate (DBTDL), a LiCF₃SO₃ salt, a diluent and plasticizer (PC), and a photoinitiator. Kim et al. teaches on page 14, Table 1, that PC ranged from 75.84-85.55 and that LiCF₃SO₃ ranged from 9.48-14.16. Kim et al. teaches on page 22, that PEUA-LiCF₃SO₃-based polymer electrolytes are good candidates for lithium batteries.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 11-17, 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Le Nest et al. "Mechanism of Ionic Conduction in Polyether-Polyurethane Networks".

Le Nest et al. teaches on page 339, that polymeric membranes based on polyether-urethane networks containing various salts have proved to be useful as solid electrolytes in lithium batteries. Le Nest et al. teaches on page 340, a network based on PEO glycols crosslinked with a triisocyanate namely, $\text{HC}(\text{p-C}_6\text{H}_4\text{NCO})_3$.

In the event any differences can be shown for the product of the product by process claims, as opposed to the product taught by Le Nest et al., such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. *In re Thrope* 227 USPQ 964; (Fed. Cir. 1985).

With respect to the product by process claims, the determination of patentability is based upon the product itself not upon the method of its production. *In re Thrope* 227 USPQ 964; *In re Brown* 173 USPQ 685; *In re Bridgeford* 149 USPQ 55; *In re Wertheim* 191 USPQ 90. Any difference imparted by the product by process limitations would have been obvious to one having ordinary skill in the art at the time the invention was made because where the Examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the Applicants to establish that their product is patentably distinct. *In re Brown* 173 USPQ 685 and *In re Fessmann* 180 USPQ 324.

A cathode or an anode for a lithium battery inherently comprises an electrode active material, a binder, a conductive agent and a solvent and would have obviously have been present once the Le Nest et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

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7. Claims 1-8, 11-17, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kim et al. "Synthesis and Characterization of Polyether Urethane acrylate-LiCF₃SO₃-based polymer Electrolytes by UV-curing in Lithium Batteries".

Kim et al. teaches on page 12, that crosslinked polymer networks prepared using radiation curing have received considerable attention and teaches that prepolymers of polyether urethane acrylate (PEUA) were synthesized from polyether polyol (polyethylene glycol (PEG) and hexamethylene diisocyanate (HMDI). Kim et al. teaches on page 13, a polyether polyol (reacted with diisocyanate, a catalyst, dibutyltin dilaurate (DBTDL), a LiCF₃SO₃ salt, a diluent and plasticizer (PC), and a photoinitiator. Kim et al. teaches on page 14, Table 1, that PC ranged from 75.84-85.55 and that LiCF₃SO₃ ranged from 9.48-14.16. Kim et al. teaches on page 22, that PEUA-LiCF₃SO₃-based polymer electrolytes are good candidates for lithium batteries.

In the event any differences can be shown for the product of the product by process claims, as opposed to the product taught by Kim et al., such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. *In re Thrope* 227 USPQ 964; (*Fed. Cir.* 1985).

With respect to the product by process claims, the determination of patentability is based upon the product itself not upon the method of its production. *In re Thrope* 227 USPQ 964; *In re Brown* 173 USPQ 685; *In re Bridgeford* 149 USPQ 55; *In re Wertheim* 191 USPQ 90. Any difference imparted by the product by process limitations would

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have been obvious to one having ordinary skill in the art at the time the invention was made because where the Examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the Applicants to establish that their product is patentably distinct. *In re Brown* 173 USPQ 685 and *In re Fessmann* 180 USPQ 324.

A cathode or an anode for a lithium battery inherently comprises an electrode active material, a binder, a conductive agent and a solvent and would have obviously have been present once the Kim et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

Allowable Subject Matter

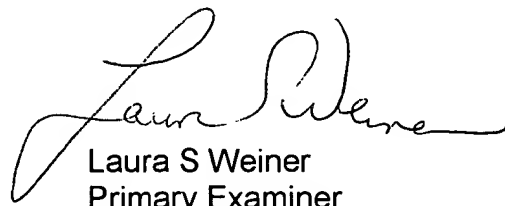
8. Claims 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S Weiner whose telephone number is 703-308-4396. The examiner can normally be reached on M-F (7:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in cursive script, appearing to read "Laura S. Weiner".

Laura S Weiner
Primary Examiner
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September 22, 2003